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expression, a cow does about a new gate. But like all sciolists he is absolutely cocksure in his views, especially when settling for all time a great religious or moral problem. Young students, we are told, as they see him strutting across the museum campus are wont to recite Goethe's famous lines:

Who's that stiff and pompous man?  
He walks with haughty paces,  
He snuffles all he snuffle can,  
He scents the Jesuit's traces.

Referring to a certain form of parasitism he writes: "It is not confined to ants and other social insects, but has analogies also in human societies (trusts, grafters, criminal and ecclesiastical organizations)," etc. Ecclesiastical organizations are classified with trusts, grafters and criminal hordes! Whither are we drifting in America, when a pigmy scientist can dare to write thus in a magazine that is widely read even by Catholics? Did not Voltaire and the Encyclopedists by writing cheap science in the nastiest form, like Wheeler, undermine Christianity in France? And if the Catholic body in this country supinely submits to be traduced and caricatured by every addle-pated scientist who, by pull and lobbying, lands himself in a position for which he has no visible qualifications, the enemies of religion, encouraged by such impunity, will redouble their efforts to supplant the kingdom of God by the Worship of Mammon and materialism.

Is the Catholic Church a parasite in the United States? Then Marquette was a parasite in Illinois. Who was a greater benefactor of our sovereign state than he? From the Atlantic to the Pacific and from Alaska to the Gulf, almost every county has its shrine that commemorates the heroic sacrifices and the imperishable services of priests to civilization and the commonwealth. Was Archbishop Carroll of Baltimore, the great patriot and the intimate friend of Washington, a parasite, or Archbishop Hughes, Lincoln's friend and ambassador to Europe, a parasite? Were the sisters of our religious communities, who ministered during the civil war to the boys in gray and to the boys in blue with the undis-

criminating catholicity of their devoted hearts, parasites? Is the Catholic Church in Chicago at the present hour, educating as it does 100,000 children, thus saving the city more than \$3,000,000 annually, parasitical? But what does Wheeler care about all these striking facts, these sublime spiritual achievements compared with the gyrations of a queen bee or the evacuations of a *Formica rufescens*?

*The Popular Science Monthly* has long been a peril to Catholic faith and morals. We know Catholic homes in which the faith has been blunted in boys and girls under twenty years of age through contact with that shallow organ of materialistic evolution. Catholic fathers and mothers would never place it within reach of their offspring did they know the deadly moral poison that pervades many of its pages.—*The New World*.

#### ASTRONOMICAL NOTES

##### THE PLANET MARS

DISCUSSION as to the conditions for intelligent life on Mars continues to hold the attention of the public. Many of the magazines and daily papers have contained articles on the subject. Professor Percival Lowell is the central figure in this discussion. He holds the center of the stage not less for the brilliant manner in which he has presented his views to the public, than for the enthusiasm and skill with which he has carried on his observations.

The recent Lowell expedition to South America, under the direction of Professor Todd, well known for his extended travels in search of the eclipsed Sun, has added to the general interest. A site was selected on the desert pampa, at a moderate elevation, near Iquique, Chile, where the conditions were found to be exceptionally favorable. Mars, when on the meridian, was within a few degrees of the zenith. Special effort appears to have been made to keep the public informed of the details of the expedition, and the announcement was early made that photographs had been obtained showing the canals double.

What may be regarded as the human side of the problem undoubtedly appeals strongly to

the average reader. This calls for neither surprise nor criticism. If it could be demonstrated, beyond reasonable doubt, that intelligent life, similar to our own, existed on some neighboring world, all men would wish for a time to turn astronomers.

There are two somewhat distinct problems; first, the determination of the facts so far as that is possible, especially the correct delineation of the surface markings, not merely the subjective impression but the objective reality. Second, the interpretation of the observed phenomena. The first is largely a matter of observation, the second, of speculation. Owing to inherent difficulties, it is probable that the observed facts will never be so definite as to exclude a wide range of interpretation.

Some of the difficulties which stand in the way of our knowledge concerning Mars were discussed by Professor Simon Newcomb in the July number of *The Astrophysical Journal*. According to Professor Newcomb, it is theoretically impossible, owing to instrumental aberration, to see fine, sharp lines, such as are shown in drawings of Mars, even if they exist on the planet. Various psychological problems also enter into the discussion, in addition to physiological ones. Professor Lowell, in a reply in the October number of the same journal, assails Professor Newcomb's position both from the theoretical and practical side.

Meanwhile, those observers who do not see the finer details which are shown on the elaborate drawings of the planet have awaited with interest the publication of the photographs, which it is claimed verify them. A display was recently made, at the Massachusetts Institute of Technology, Boston, of a large number of transparencies, reproduced from the negatives of Mars which were made both in Arizona and in South America. The original negatives, in both places, were obtained by the use of a color screen used in connection with special plates. These photographs undoubtedly mark a distinct advance in planetary photography, and much credit is due to Messrs. Lampland and Slipper, Professor Lowell's assistants. The photographs

made in Chile excel slightly those obtained earlier in Arizona. All show the broader markings on Mars much better than any obtained elsewhere. In a general way they corroborate the synchronous drawings by Professor Lowell. So far as the writer could determine, however, from a careful examination of the transparencies, they do not show any of the long, straight, and sharply defined canals shown on many drawings, nor was any trace of doubling visible. It is possible, of course, that groups of fine details, which appear distinct in the brief intervals of good seeing, may be blended on the photograph into the broad shadings shown on the transparencies. Though not out of harmony with the drawings, it is difficult, nevertheless, to see how the photographs can be regarded as confirming the details. Assuming the drawings to be correct, the photograph even now, compared with the eye, is a very poor second in the delineation of planetary detail. On the other hand, the photographs show nearly as much as has been seen by many conservative observers of Mars.

Too much importance need not be attached to the doubling of the canals. Whether this is a reality or an illusion does not appear to affect seriously the problem of intelligent life. Even if photographs should be obtained showing the canals distinctly double, the objective reality of the phenomenon would not thereby be absolutely assured, that is, photographs like figures sometimes lie. A striking case in point was the announcement, in 1890, by an English astronomer, of  $\alpha$  Lyræ as a spectroscopic binary, from the duplicity of the lines of its spectrum as shown on photographs. This was an error due to causes never explained. This case is unusual only on account of its publicity. An artificial duplicity is one of the ordinary dangers which must be guarded against in astronomical photography. Sometimes the causes are apparent, at other times they are extremely obscure.

The subject is one which appeals strongly to the imagination. That intelligent life is confined to our earth alone, out of the many millions of worlds, seems absurd. Whether it exists at the present time on Mars is a fair problem to be decided according to the evi-

dence. That its existence forms the most simple explanation of the peculiar features of the Martian landscape is probably doubted by most astronomers. Indeed, the objective reality of many of these peculiarities can not be said to have been established beyond doubt. It can at least be safely stated that nothing amounting to a demonstration of the existence of intelligent life on Mars has yet been accomplished.

S. I. BAILEY

#### BOTANICAL NOTES

##### THE COMING BOTANICAL MEETINGS IN CHICAGO

IN a short time the annual gathering of botanists will take place in Chicago in connection with the meetings of the American Association for the Advancement of Science. Through the persistent efforts of disinterested and patriotic men we do not now have a divided body of botanists in this country, all the botanical societies now having merged in the one organization—the Botanical Society of America. This merging has consolidated American botanists in a most satisfactory manner, and has done much to bring them together in a compact, harmonious working body. This is quite as it should be. Botany is not so large and wide as to make it necessary that it should be parceled out among a number of groups of workers.

But the merging of these affiliated societies does not wholly settle the question of the meetings, for we still have officially two bodies of botanists, namely the Section of Botany (G) of the American Association for the Advancement of Science, and the Botanical Society of America. Last year there was not a little confusion in the meetings of these two bodies, and on at least one occasion both were in session at the same time. It is to be hoped that the plans that are now being talked over by the officers of both organizations will result in avoiding such conflicts in the future. There is time enough, certainly, for all of the papers to be read that are worthy of taking the time of the botanists of the country, without having simultaneous sessions.

The writer has on more than one occasion urged that there should be a differentiation in

the work of the section, and the society. Perhaps the easier plan is to make the meetings of the society "program" meetings, in which papers are read by invitation, while in the section we still allow practically any one to read almost any kind of a paper on nearly any subject in any way connected with botany. It is quite absurd to have two botanical organizations with no other difference than that of name and presiding officers. The writer holds that the section should always be maintained as a democratic body of botanists, before which one may volunteer to bring a paper. It must be maintained for the benefit of the young men who are constantly joining the ranks of the botanists. Here is where as strangers they may appear with papers which show their ability, or lack of it. Here, too, the older and more experienced men may read their less technical papers, and those whose purpose is more that of instruction, and the promotion of general discussion. Methods of teaching, the popularizing of botany, its applications in the arts and industries, and in fact anything which may advance this department of science, may certainly be included in the work of the section.

Possibly a practicable method for beginning the differentiation of section and society would be to have a joint committee on papers, to which all papers for either organization should be submitted. Such committee should be given the power to sort the papers, and to assign them to section, or society, for reading, in accordance with an agreed plan. The difficulty with this proposal is that such a committee can not meet personally before the meetings, and that the papers (or abstracts) are not to be secured long enough in advance of the meetings for the matter to be attended to by correspondence. However, if for the coming meeting every paper (or a good abstract) could be in the hands of such a joint committee by Monday morning, December 30, at 9 o'clock, it would not be a difficult task to make such an assignment as would differentiate the two organizations quite sharply.

For the present the society is preparing programs for at least a part of its sessions, and participation in these programs is by invi-